# Incremental encoders

## Through hollow shaft ø14 mm

## 2000…10000 pulses per revolution

## ITD 41 A 4 Y117

ITD 41 A 4 Y117 with through hollow shaft

### Features

- **Encoder with electric isolated through hollow shaft ø14 mm**
- **Max. 10000 pulses per revolution**
- **Optical sensing method**
- **Mounting by electrically isolated torque support**
- **TTL or HTL output signals**
- **Cable output radial**

### Optional

- **Cable with connector**
- **Extended operating temperature range**

### Technical data - electrical ratings

| | |
|---|---|
| Voltage supply | 5 VDC ±5 %<br>8...30 VDC |
| Reverse polarity protection | Yes |
| Consumption w/o load | ≤100 mA |
| Pulses per revolution | 2000...10000 |
| Reference signal | Zero pulse, width 90° |
| Sensing method | Optical |
| Output frequency | ≤300 kHz (TTL)<br>≤160 kHz (HTL) |
| Output signals | A, B, N + inverted |
| Output stages | TTL linedriver (short-circuit proof)<br>HTL push-pull (short-circuit proof) |
| Interference immunity | DIN EN 61000-6-2 |
| Emitted interference | DIN EN 61000-6-3 |

### Technical data - mechanical design

| | |
|---|---|
| Size (flange) | ø80 mm |
| Shaft type | ø14 mm (through hollow shaft) |
| Mounting kit | 033 |
| Protection DIN EN 60529 | IP 65 |
| Operating speed | ≤8000 rpm<br>≤5000 rpm IP 65 (>70 °C) |
| Starting torque | ≤0.015 Nm (+20 °C) |
| Materials | Housing: aluminium, black, powder-coated<br>Shaft: stainless steel |
| Operating temperature | -20...+70 °C<br>-20...+100 °C |
| Relative humidity | 90 % non-condensing |
| Resistance | DIN EN 60068-2-6<br>Vibration 10 g, 55-2000 Hz<br>DIN EN 60068-2-27<br>Shock 30 g, 11 ms |
| Connection | Cable 1 m |
| Weight approx. | 600 g |

## ITD 41 A 4 Y117

### Part number

| ITD 41 A 4 Y117 | | | NI | KR1 | | 14 | | 033 |
|---|---|---|---|---|---|---|---|---|

**Pulse number - see table**

**Voltage supply / signals**
- T 5 VDC / TTL level, linedriver
- H 8...30 VDC / HTL level, push-pull
- R 8...30 VDC / TTL level, linedriver

**Output signals**
- NI A, A inv, B, B inv, 0, 0 inv

**Connection**
- KR1 Cable 1 m, radial

**Operating temperature**
- S -20...+70 °C
- E -20...+100 °C

**Through hollow shaft**
- 14 ø14 mm

**Protection**
- IP54 IP 54
- IP65 IP 65

**Mounting kit**
- 033 Mounting kit 033

### Pulse number

| | | | |
|---|---|---|---|
| 2000 | 2500 | 3600 | 5000 |
| 2048 | 3072 | 4096 | 10000 |

# Incremental encoders

## Through hollow shaft ø14 mm

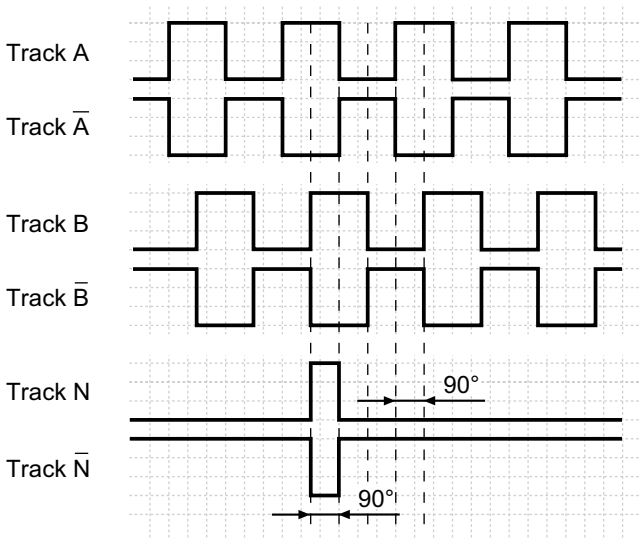
## 2000…10000 pulses per revolution

## ITD 41 A 4 Y117

### Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals




### Terminal assignment

| Core colour | Assignment |
|---|---|
| brown | Track A |
| green | Track A inv. |
| grey | Track B |
| pink | Track B inv. |
| red | Track N |
| black | Track N inv. |
| brown 0,5 mm² | UB |
| white 0,5 mm² | GND |
| blue | UB-Sense |
| white | GND-Sense |
| transparent | Shield/Housing |

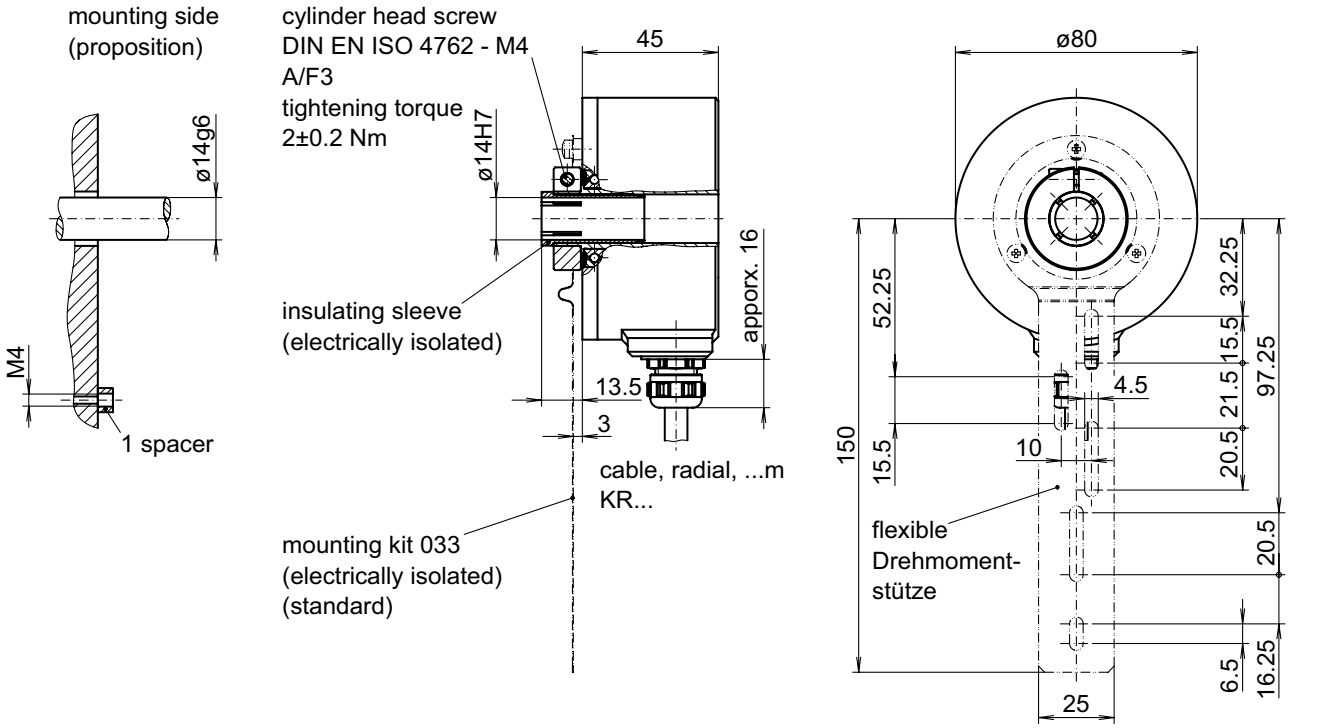
### Trigger level

| **Outputs** | **Linedriver** |
|---|---|
| Output level High | ≥2.4 V |
| Output level Low | ≤0.5 V |
| Load | ≤70 mA |

| **Outputs** | **Push-pull** short-circuit proof |
|---|---|
| Output level High | ≥UB -3 V |
| Output level Low | ≤1.5 V |
| Load | ≤70 mA |

## ITD 41 A 4 Y117

### Dimensions




drawing-no.: 026- 5 Y117